Remarks/Arguments

Prior to this Amendment, claims 1-59 are pending in the application. Claims 1-59 stand rejected according to the Office action dated February 12, 2003. By this Amendment, Applicants are amending claims 2, 35, 41, and 42. Reexamination and reconsideration of claims 1-59 in view of the amendments and remarks contained herein are respectfully requested.

Claim 2 is objected to because of an informality. Claim 2 is amended as suggested by the Examiner to address the informality.

Claim 35 is amended to correct an informality.

Claim 41 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Office action states that claim 41 contains numerous limitations that lack proper antecedent basis. Claim 41 is amended as suggested by the Examiner to address the rejections. Claim 41 is also amended to correct informalities.

Claim 42 is amended to correct an informality.

Claims 1-59 are rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 5,121,470 ("Trautman"). Independent claims 1, 15, 23, 41 and 42, specify, among other things, subject matter related to a three dimensional representation of physiological patient data as described below.

Claim 1 of the present application specifies, among other things:

...displaying the physiological patient data in a three dimensional representation.

Claim 15 of the present application specifies, among other things:

...displaying the physiological patient data in a three dimensional representation....

Claim 23 of the present application specifies, among other things:

...a processor for producing a three dimensional representation of the physiological patient data.

Claim 41 of the present application specifies, among other things:

...displaying a three dimensional representation of the physiological patient data....

-10-

Amended claim 42 of the present application specifies, among other things:

... a means for producing a three dimensional representation of the physiological patient data.

As discussed with Examiner Tran in the telephone interview on March 31, 2003, Trautman does not disclose, among other things, the display of physiological patient data in a three dimensional representation. Instead, Trautman discloses the display of data in a two dimensional representation. A person of skill in the art understands that a display of data in a three dimensional representation is a representation of data about a set of three dimensional axes such as the X, Y and Z axes, while a display of data in a two dimensional representation is a representation of data about a set of two dimensional axes such as the X and Y axes. In short, Trautman fails to teach, describe, or suggest the subject matter related to a three dimensional representation of physiological patient data as specified in claims 1, 15, 23, 41 and 42. The Applicants respectfully submit that claims 1, 15, 23, 41 and 42 (and therefore the corresponding dependent claims) are novel and patentable over Trautman.

Claims 2-14; claims 16-22; claims 24-40; and claims 43-59 ultimately depend upon claims 1, 15, 23, and 42, respectively, and are therefore allowable for the reasons set forth above with respect to claims 1, 15, 23, and 42. Therefore, claims 2-14; claims 16-22; claims 24-40; and claims 43-59 are allowable. Additionally, claims 2-14; claims 16-22; claims 24-40; and claims 43-59 specify additional limitations that, in combination with claims 1, 15, 23, and 42, respectively, are believed to be inventive. Examples of the additional inventive limitations include: displaying electrocardiogram data in a three dimensional representation (claims 2 and 16); displaying blood pressure data in a three dimensional representation (claims 3 and 17); displaying cardiac output data in a three dimensional representation (claims 4 and 18); displaying pulse oximetry data in a three dimensional representation (claims 5 and 19); storing the physiological data in a memory array (claims 6, 29, and 48) such as a waveform array (claims 7, 20, 30, and 49); parsing the physiological data into a series of waveforms (claims 8, 37, and 56) such as median waveforms (claims 9, 21, 38, and 57); plotting the parsed waveforms in a temporal alignment to allow detection of long term trends in physiological data (claim 10); assigning a representative X coordinate, Y coordinate, and Z coordinate, to each data point and plotting each data point on the display to produce a three dimensional representation (claim 11);
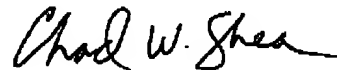
-11-

parsing the data points into a series of median waveforms and plotting the waveforms in a temporal alignment (claim 12); color-coding the amplitude values of the data points in the relevant range (claim 13) such as +0.5 mV to 0.5 mV (claims 14 and 22); using a patient monitor device as the source of physiological patient data (claims 23-27, and 43-46); using a memory device connected to the processor (claim 28); using a black and white display capable of displaying/generating shades of gray in between black and white (claims 31 and 50); using a color display (claims 32 and 51); using a display having a plurality of pixels for displaying the respective coordinates (claims 33 and 52); using software for animation and walk through of three dimensional representations (claim 34); using software to receive the physiological data (claim 35); using software to parse the physiological data (claim 36); using software to generate a waveform display on the display (claim 39) such that the waveform display places the data points at respective pixels on the display (claim 40); storing the physiological data (claim 47); animating the three dimensional representation for analysis of the three dimensional representation (claim 53); receiving physiological data (claim 54); parsing the physiological data (claim 55); generating a waveform display on the display (claim 58); and placing the data points at respective pixels on the display (claim 59). Claims 2-14; claims 16-22; claims 24-40; and claims 43-59 are therefore allowable

In view of the above amendments and remarks it is submitted that the claims are patentably distinct over Trautman, that all objections and rejections to the claims have been overcome, and that the application is in condition for allowance. Entry of this Amendment is therefore respectfully requested.

Applicants direct the Examiner's attention to the Information Disclosure Statement filed August 5, 2002 with respect to the above-referenced application. An initialed copy of the submitted form PTO-1449 was not included with the Office action dated February 12, 2003. Applicants request that the Examiner provide such an initial copy of the submitted form PTO-1449 as to ensure the Examiner has reviewed the cited reference. Applicants further direct the Examiner's attention to the Electronic Information Disclosure Statement filed April 2, 2003 with respect to the above-referenced application (after the issuance of the Office action dated February 12, 2003).

If any issues remain outstanding following entry of the above amendments, the Examiner is invited to contact the undersigned Applicants' Representative at (262) 956-6525 to discuss the claims further.

Respectfully submitted,

Chad W. Shea
Reg. No. 48,470

Docket No.: 39199-9505-00
Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4108

(414) 271-6560

-13-